

**To:** Maraldo, Dean[Maraldo.Dean@epa.gov]  
**From:** Deltoral, Miguel  
**Sent:** Mon 9/26/2016 4:34:25 PM  
**Subject:** Re: East Chicago  
Pb filtrations sequential sampling 9 22 16 (1) mdt responses.doc

Hi Dean,

Thanks a million for helping on this. I added my comments to your Q's. Feel free to call if you have any additional Q's.

Miguel A. Del Toral

Regulations Manager  
U.S. EPA R5 GWDWB  
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Phone: (312) 886-5253

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**From:** Maraldo, Dean  
**Sent:** Monday, September 26, 2016 06:54 AM  
**To:** Deltoral, Miguel  
**Subject:** Fwd: East Chicago

Miguel: here's a rough sequential filtering protocol I sent to Mike and Darren. I don't know if I'll hear back from them in time to implement for the first home(s) to be sampled in EC on Wednesday. I'll be helping with first homes. If you have time to review that would be great. Thanks, and welcome back home.

Sent from my iPhone

Begin forwarded message:

**From:** "Maraldo, Dean" <Maraldo.Dean@epa.gov>  
**Date:** September 22, 2016 at 3:41:13 PM EDT  
**To:** "Schock, Michael" <Schock.Michael@epa.gov>, "Lytle, Darren" <Lytle.Darren@epa.gov>  
**Cc:** "Williams, Daniel" <Williams.Daniel@epa.gov>  
**Subject:** Re: East Chicago

Ok, here's a stab at a sequential filtering procedure. I believe the original document

was developed by you guys and sent to the East Chicago team. I modified it for our 1L sequential sampling method. There are a few areas highlighted with questions for you. Mainly about specs on equipment. I'm definitely not an expert in the field of filtering so I won't be offended if you guys total scrap this! But its hopefully a start.

Thanks,

Dean

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<http://www.epa.gov/enforcement/>

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**From:** Schock, Michael  
**Sent:** Thursday, September 22, 2016 1:50 PM  
**To:** Maraldo, Dean; Lytle, Darren  
**Cc:** Williams, Daniel  
**Subject:** RE: East Chicago

That's something we're going to have to figure out, too, with our contractor and the field work. It makes sense except you have to be really ,really sure there is no contamination of any of the metals of interest on the OUTSIDE of the syringe that draws up the water for filtering. So, it may be best to have disposable syringes and have the lab dip some of the syringes in dilute acid and test for contamination, and then use a new one for each sample, right out of the package.

Mike

**From:** Maraldo, Dean  
**Sent:** Thursday, September 22, 2016 2:46 PM

**To:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>; Schock, Michael <[Schock.Michael@epa.gov](mailto:Schock.Michael@epa.gov)>  
**Cc:** Williams, Daniel <[Williams.Daniel@epa.gov](mailto:Williams.Daniel@epa.gov)>  
**Subject:** Re: East Chicago

This is really helpful, thanks. I'll recommend PP filters. I may need to talk to you guys about the sampling procedure. They are planning to use similar protocol to Flint sequential sampling. I'm not sure how they plan to integrate filtering. I assume they can pull from the 1L bottles using a syringe, but I'm usually wrong when I assume things.

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**From:** Lytle, Darren  
**Sent:** Thursday, September 22, 2016 1:11 PM  
**To:** Maraldo, Dean; Schock, Michael  
**Cc:** Williams, Daniel  
**Subject:** RE: East Chicago

Dean,

This paper may help with identifying filter materials that minimize lead sorption losses.  
Darren

Darren A. Lytle, Ph.D., P.E.

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Phone: (513) 569-7432

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email: [lytle.darren@epa.gov](mailto:lytle.darren@epa.gov)

**From:** Maraldo, Dean

**Sent:** Thursday, September 22, 2016 12:55 PM

**To:** Schock, Michael <[Schock.Michael@epa.gov](mailto:Schock.Michael@epa.gov)>; Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>

**Cc:** Williams, Daniel <[Williams.Daniel@epa.gov](mailto:Williams.Daniel@epa.gov)>

**Subject:** Re: East Chicago

Ok, then that's the plan. Looks like Superfund wants to filter 20% of 1L samples. I'm not sure how they plan to select the 20% but will find out. If you have any suggestions please pass along. Thanks for the quick response.

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**From:** Schock, Michael

**Sent:** Thursday, September 22, 2016 11:49 AM  
**To:** Maraldo, Dean; Lytle, Darren  
**Cc:** Williams, Daniel  
**Subject:** RE: East Chicago

Hi, Dean;

Great question, thanks for asking !!

No, filtering must be done immediately upon sample collection, because dissolved and some particulate lead sorbs instantaneously to even the best plastic container walls. Since you're removing part of the sample to filter, you're leaving "extra" lead behind on the walls, which gets re-dissolved into the remaining water when acid is added. Net result is way overestimating the amount of particulate lead in a sample. Also, sorption losses can happen with the filtration apparatus and filters, too. There's a lot of analytical chemistry literature on lead loss to containers and filters, and Darren also did a lab study a couple of years ago with some newer filter materials.

Yeah, it's a very serious royal pain, absolutely no argument there. In our contract for lead fractionation in Flint, which should be starting soon, we're also going to have to adjust the number of the sequential samples that we can filter, because of time and sample manipulations. And there's always a potential contamination issue with handling the apparatus and bottles out in the field, too.

--Mike

**From:** Maraldo, Dean  
**Sent:** Thursday, September 22, 2016 12:20 PM  
**To:** Lytle, Darren <[Lytle.Darren@epa.gov](mailto:Lytle.Darren@epa.gov)>; Schock, Michael <[Schock.Michael@epa.gov](mailto:Schock.Michael@epa.gov)>  
**Subject:** Fw: East Chicago

Darren/Mike: re East Chicago a question came up regarding filtering. The contractor wants to know if filtering can be done at a field lab rather than in home. Based on our experience in Flint it would be a nuisance for the resident to have to do filtering in the home, as it would add time in the home. But if its absolutely

critical we can make the recommendation to Superfund for immediate filtering at the home. Thanks.

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**From:** Porter, Andrea  
**Sent:** Thursday, September 22, 2016 11:08 AM  
**To:** Maraldo, Dean; Deltoral, Miguel  
**Cc:** Donnelly, Peggy; Mendez, Thomas; Bosscher, Valerie  
**Subject:** RE: East Chicago

Hi All,

Yesterday I forwarded the attached to Tim Drexler as example in-field filter protocol – these are documents ORD put together for Flint filtered pipe rig sampling.

I was on a call with Tim Drexler and his East Chicago START contractors yesterday. The contractors had not seen the SOW at that point. They asked for the Flint QAPP as a reference, so I forwarded the link to it on our website.

On the call, it still sounded like filtration of 20% of samples was part of the plan. The contractors asked if they could delay filtering until samples are driven to the lab, or if it was crucial to have in-field filtering. That seems like a question for ORD, unless any of you have experience on that.

Let me know if there's more you need on this.

Thanks,

Andrea Porter

Environmental Engineer

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**From:** Maraldo, Dean

**Sent:** Thursday, September 22, 2016 10:36 AM

**To:** Deltoral, Miguel <[deltoral.miguel@epa.gov](mailto:deltoral.miguel@epa.gov)>

**Cc:** Donnelly, Peggy <[Donnelly.Peggy@epa.gov](mailto:Donnelly.Peggy@epa.gov)>; Mendez, Thomas <[mendez.thomas@epa.gov](mailto:mendez.thomas@epa.gov)>; Porter, Andrea <[porter.andrea@epa.gov](mailto:porter.andrea@epa.gov)>

**Subject:** Re: East Chicago

Not sure. I will ask. Looks like they had 20% in the SOW

Sent from my iPhone

On Sep 22, 2016, at 10:27 AM, Deltoral, Miguel <[deltoral.miguel@epa.gov](mailto:deltoral.miguel@epa.gov)> wrote:

Looks good for the sequentials. Did they decide to drop the filtered samples?

[FLINT]

Miguel A. Del Toral

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**From:** Maraldo, Dean  
**Sent:** Thursday, September 22, 2016 08:46 AM  
**To:** Deltoral, Miguel; Donnelly, Peggy; Mendez, Thomas  
**Subject:** East Chicago

Here's a sequential sampling reference I pulled together for EC. Used existing Flint SOPs with updates, lessons learned and tips from Flint. Let me know if there's anything I missed.

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